Estimating the inriver abundance of Copper River Chinook salmon, 2010 annual report

The purpose of this project was to use fish wheels and two-sample mark-recapture methods for long-term monitoring of Chinook salmon Oncorhynchus tshawytscha escapement on the Copper River. This report summarizes results from the 2010 field season, the tenth year since the project's inception. The main objective for 2010 was to estimate the inriver abundance of Chinook salmon returning to the Copper River such that the estimate was within 25% of the true escapement 95% of the time. For the first sample event, up to two live-capture fish wheels were operated at Baird Canyon for a total of 1,865 h from 15 May to 5 July. During this period, 1,745 adult Chinook salmon were marked. For the second sample event, up to two fish wheels were operated at Canyon Creek near the lower end of Wood Canyon for 2,434 h from 18 May to 15 July. A total of 894 Chinook salmon and were examined for marks, of which 69 fish were marked. Using a pooled Petersen estimator, the abundance of Chinook salmon measuring 500 mm FL or greater that migrated upstream of Baird Canyon from 15 May to 5 July was estimated to be 22,323 (SE = 2,492; 95% CI = 17,438-27,207). The median travel time of Chinook salmon marked at Baird Canyon and recaptured at Canyon Creek (91 km upstream) was 9.1 d. Funding for this study by the Fisheries Resource Monitoring Program has been approved through 2013. This highly successful and long-term monitoring program operated by the Native Village of Eyak provides information that has become an integral part of Copper River salmon management.

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